

New York State Energy Research and Development Authority

Green Jobs – Green New York Q2 2020 Quarterly Update

Quarter ending June 30, 2020

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Program Description

Green Jobs – Green New York (GJGNY) provides funding for energy assessments, low-cost financing for energy upgrades, and technical and financial support to develop a clean energy workforce. GJGNY is a statewide effort to strengthen communities through energy efficiency and uses constituency-based organizations to support program outreach in underserved communities. GJGNY enables New Yorkers to make a significant difference in homes, businesses and neighborhoods—making them more comfortable, more sustainable, and more economically sound. GJGNY is administered by NYSERDA and made available by the [Green Jobs – Green New York Act of 2009](#).

1 Workforce Development

GJGNY supports a broad range of education and training programs aimed at creating an experienced green collar workforce. This workforce will have the relevant skills and credentials needed to support New York State’s growing clean energy economy. The workforce training programs help meet the demand for energy efficiency and renewable energy measures and technologies. Through public-private partnerships, workforce development programs fund the development and delivery of cutting-edge training programs and provide financial support to those who wish to pursue new career training, professional certifications, and critical on-the-job training.

1.1 Clean Energy Technical Training

From the program’s inception through March 2019, over 4,184 New Yorkers were trained in a range of energy efficiency and renewable energy courses.

NYSERDA issued an On-the-Job Training (OJT) for Energy Efficiency and Clean Technology Program Opportunity Notice, which includes approximately \$520,000 in GJGNY workforce training funds that will be made available to eligible New York State employers outside of the Systems Benefit Charge service territory. This program supports wages for new hires on a first-come, first-served basis for eligible clean energy businesses. The program includes higher wage subsidies for employers that hire workers with additional barriers to employment. NYSERDA added one OJT company this quarter, bringing the total number of GJGNY businesses to four for a total investment of approximately \$194,240 of GJGNY funds in the OJT program. To date, 28 people have been hired by these businesses under the OJT program.

2 Outreach

2.1 Community Energy Engagement Program

The Community Energy Engagement Program (CEEP) incorporates and builds upon the success of previous engagement efforts including the Green Jobs, Green New York (GJGNY) Outreach Initiative. Historically, outreach and engagement were conducted as part of the CBO program funded by GJGNY. While the initial GJGNY funding allocated for outreach activities has been exhausted, NYSERDA continues locally-based outreach and engagement efforts through the CEEP program with funding provided via the Clean Energy Fund (CEF) and Regional Greenhouse Gas Initiative.

Through CEEP, NYSERDA awarded approximately \$5.5 million to deploy Community Energy Advisors to conduct engagement activities to New York State residents, small businesses, and multifamily building owners, with an emphasis on low-to-moderate income (LMI) households and communities. These Community Energy Advisors focus on improving energy affordability and increasing deployment of distributed energy resources for community members of all income levels.

Additionally, the program seeks to address energy affordability needs, reduce energy bills, and increase participation in energy efficiency and renewable energy solutions and programs for residential, multifamily, and small business customers. The program also seeks to ensure residential, multifamily and small business customers' awareness of and access to financing options for energy efficiency and renewable energy projects while educating households and communities to achieve greater energy literacy, understand the value proposition of clean energy solutions, enable informed energy decisions, facilitate action in completing clean energy projects, and decrease energy consumption.

Key activities this quarter included:

- Targeted program outreach continued to focus on key residential programs such as EmPower New York, Assisted Home Performance with ENERGY STAR® and Home Performance with ENERGY STAR®, with 304, 262 and 67 opportunities generated this quarter, respectively. As of June 30, 2020, there are 1,496, 1,795 and 1,347 opportunities for these residential programs, respectively. Community Energy Advisors also continued targeted outreach on the Solar for All Program for low-income residential customers, with 70 opportunities generated in Q2 2020, for a total of 356 opportunities as of June 30, 2020.¹

¹ Opportunities are customer referrals or leads to NYSERDA or non-NYSERDA programs that are self reported by the Community Energy Advisors. Opportunities include customers assisted with clean energy applications.

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- Targeted program outreach for small commercial and nonprofit customers on the GJGNY Energy Study Program continued by engaging groups that work with businesses such as local Chambers of Commerce and participating in events such as the Brooklyn Green Summit that are geared towards local businesses. For Q2 2020 there were 23 new small businesses or nonprofits assisted by Community Energy Advisors through this program, bringing the total number of small businesses and nonprofits assisted through Q2 2020 to 99.
- During Q2 2020, in-person outreach events continued to be cancelled or postponed until further notice due to the ongoing COVID-19 pandemic. Community Energy Advisors across the state continued to adapt to conducting outreach and engagement virtually and leverage their social media presence and networks.
- The Southern Tier CEEP team organized two large scale Earth Day celebrations for Tompkins County and, separately, for Broome and Tioga counties. Over 50 performers and presenters participated in the Tompkins celebration, and about 20 in the Broome and Tioga county celebration. Presentations occurred on Zoom and were broadcast live on Facebook. For the Tompkins celebration, there was on average around 90 viewers during the live viewing. According to Facebook, the video reached 13,000 people and has had 4,200 views. Average viewing time was around two minutes. The Broome/Tioga video had over 130 views as of the April 2020.
- Mid-Hudson hosts a virtual outreach series called “Watt’s Up?: Energy Stories with a Purpose”. The focus of the series is to provide digital content to audiences about current and emerging energy, while creating more visibility for NYSERDA programs.
- The Mid-Hudson CEEP team organized and hosted an ongoing virtual outreach series called, “Watt’s Up?: Energy Stories with a Purpose.” The focus of the series is to provide digital content to audiences about current and emerging energy topics that educate audiences while creating more visibility for NYSERDA programs and CEAs. Episodes are live streamed on the CCE Dutchess and CCE Sullivan Facebook pages on Thursday afternoons at 5:00 p.m. ET. In June, the CEAs included guest speakers Daphany Rose Sanchez, Executive Director of Kinetic Communities Consulting, and Raya Salter, Policy Organizer for NY Renews Coalition.
- Leveraging private investment from other sources to support implementation of clean energy projects continued through CEEP. In Q2 2020, the CEAs reported a total of approximately \$1,056,829 in non-NYSERDA private investment leveraged for projects completed the quarter. This brings the reported, cumulative total of private investment leveraged as of June 30, 2020 by the CEAs to approximately \$5,012,049 for implementation of clean energy projects. This includes, but is not limited to, funding from the NYS HOME program, Weatherization Assistance Program (WAP), and local resources such as Affordable Housing Corporation (AHC), City of Rochester Lead Abatement Program, Utility energy affordability programs, etc.

3 One- to Four-Family Residential Buildings Program

GJGNY provides home assessments and financing to support energy efficiency and renewable energy improvements to one-to-four family homes.

NYSERDA's residential programs offer homeowners in New York State a comprehensive approach to improving energy efficiency and home comfort while saving money. Participating contractors and energy auditors conduct energy assessments and upgrades. Income-qualified homeowners are eligible for additional incentives to make energy improvements.

The GJGNY loan also supports deployment of solar photovoltaic (PV) through the NY-Sun program, solar thermal (hot water) systems, and certain wood and pellet stove replacements through Renewable Heat NY.

3.1 Residential Energy Audits

Beginning in January 2020, New Yorkers across the state are eligible to receive no-cost GJGNY audits through NYSERDA's residential energy audit programs which include the Residential Audit Program, Assisted Home Performance with ENERGY STAR and EmPower, New York.

Depending on the income limits of the customer, following the completion of the audit, additional work may be done at the residence through NYSERDA's Low to Moderate Income programs. Assisted Home Performance provides a 50% subsidy capped at \$4,000 for households earning less than 80% of the Area Median Income. The remaining balance of the project may be eligible for GJGNY financing. Residential Energy Audit customers are not eligible for monetary incentives but can fund recommended improvements using GJGNY financing.

For households earning less than 60% of the State Median Income, NYSERDA provides additional no cost services to the household, including lighting, replacement of inefficient refrigerators/freezers, installation of health and safety measures and insulation and air-sealing improvements.

Table 3-1. Residential Energy Audits

| Timeframe | GJGNY Totals since 11/15/10 ^a |
|--|--|
| Completed Audits^{b,c} | |
| Q2 2020 | 1,443 |
| Total Completed Audits | 148,219 |
| Audit Funds Invoiced to Date | \$ 37,935,062 |
| ^a GJGNY totals since 11/15/10 are inclusive of CBO initiated activities. ^b Reported data includes all audits offered through the Residential Energy Audit Program. In mid-2016, NYSERDA began using CEF funds for audits in CEF electric utility territories. ^c Beginning in Q1 2020, Total Completed Audits is inclusive of GJGNY audits completed through Assisted Home Performance with ENERGY STAR and EmPower New York, which have audits as part of the work provided, and the Residential Audit Program. | |

3.2 One- to Four-Family Residential Buildings Financing

New York residents can apply for a Green Jobs-Green New York (GJGNY) loan to finance energy efficiency work, including, but not limited to, upgrading insulation, air sealing, and replacing outdated appliances with ENERGY STAR® certified products that may render savings on their monthly utility bill. GJGNY financing has also expanded to net-metered technologies, such as solar electric systems and solar thermal systems, that have attracted many customers statewide.

GJGNY provides two loan options for consumers: On-Bill Recovery (OBR) loans, which enable customers to make payments through their utility bills; and Smart Energy loans, unsecured loans that are paid back directly to NYSERDA’s loan servicing contractor. Both loans offer expanded credit qualification criteria (Tier 2) enabling some applicants who would not qualify for a loan based on more traditional criteria (Tier 1) to qualify for GJGNY loans.

Table 3-2. Green Jobs–Green New York Financing, Summary by Loan Purpose and Loan Type

EE= energy efficiency only. PV = PV only. RHNY = renewable heat (pellet or wood stoves). GSHP = ground source heat pump. ST = solar thermal. ASHP = air source heat pump.

| GJGNY Loan Type | Loans Issued (Number) | Loans Issued (Dollars) |
|----------------------------|------------------------------|-------------------------------|
| EE Smart Energy Loan | 14,402 | \$126,753,264 |
| EE On-Bill Recovery Loan | 4,140 | \$46,096,695 |
| Total | 18,542 | \$172,849,959 |
| PV Smart Energy Loan | 3,982 | \$65,515,687 |
| PV On-Bill Recovery Loan | 4,748 | \$79,031,567 |
| Total | 8,730 | \$144,547,255 |
| RHNY Smart Energy Loan | 60 | \$490,455 |
| RHNY On-Bill Recovery Loan | 9 | \$42,621 |
| Total | 69 | \$533,076 |
| GSHP Smart Energy Loan | 14 | \$290,429 |
| GSHP On-Bill Recovery Loan | 12 | \$243,453 |
| Total | 26 | \$533,882 |
| ASHP Smart Energy Loan | 87 | \$1,327,473 |
| ASHP On-Bill Recovery Loan | 3 | \$30,175 |
| Total | 90 | \$1,357,648 |
| ST Smart Energy Loan | 9 | \$64,039 |
| ST On-Bill Recovery Loan | 2 | \$11,510 |
| Total | 11 | \$75,549 |
| Grand Total | 27,468 | \$ 319,897,369 |

Table 3-3. Green Jobs–Green New York Financing, Summary by Loan Type and Underwriting

| Loan Type Summary | | | | | | | |
|----------------------|--------------|------------|-------------|------------------|------------|-------------|---------------|
| | Smart Energy | | | On-Bill Recovery | | | Total |
| | Tier 1 | Tier 2 | Total | Tier 1 | Tier 2 | Total | |
| Loans Issued | 14,654 | 3,900 | 18,554 | 7,506 | 1,408 | 8,914 | 27,468 |
| Value (Dollars) | 156,261,129 | 38,180,219 | 194,441,348 | 106,236,487 | 19,219,534 | 125,456,022 | \$319,897,369 |
| Average Loan | 10,663 | 9,790 | 10,480 | 14,154 | 13,650 | 14,074 | |
| Average Term (Years) | 13.7 | 14.3 | 13.8 | 14.6 | 14.7 | 14.6 | |

Table 3-4. Green Jobs–Green New York Financing, Energy Efficiency Loans, by Market Indicator and Underwriting

| Energy Efficiency Loans (Assisted vs. Market Rate) | | | | | | | |
|--|------------|------------|--------------|-------------|------------|---------------|---------------|
| | Assisted | | | Market Rate | | | Grand Total |
| | Tier 1 | Tier 2 | Total | Tier 1 | Tier 2 | Total | |
| Loans Issued | 5,053 | 2,472 | 7,525 | 9,465 | 1,390 | 10,855 | 18,380 |
| Value (Dollars) | 34,211,784 | 17,512,360 | \$51,724,143 | 103,923,260 | 16,000,585 | \$119,923,846 | \$171,647,989 |
| Tier % (Loan Count) | 67% | 33% | 100% | 87% | 13% | 100% | |
| % of Total Loans issued | | | 41% | | | 59% | 100% |
| % of Total Funds Issued | | | 30% | | | 70% | 100% |
| Average Loan Amount | \$6,862 | | | \$11,048 | | | \$9,322 |

Table 3-5. Green Jobs–Green New York Financing, Photovoltaic Loan Summary, by Market Indicator and Underwriting

| Photovoltaic Loan Summary (Affordable Solar vs. Market Rate) | | | | | | | |
|--|------------------|-----------|-------------|---------------|--------------|---------------|---------------|
| | Affordable Solar | | | Market Rate | | | Grad Total |
| | Tier 1 | Tier 2 | Total | Tier 1 | Tier 2 | Total | |
| Loans Issued | 202 | 73 | 275 | 6,983 | 1,239 | 8,222 | 8,497 |
| Value (Dollars) | 2,767,784 | 1,069,800 | \$3,837,584 | \$115,513,750 | \$21,421,979 | \$136,935,729 | \$140,773,313 |
| Tier % (Loan Count) | 73% | 27% | 100% | 85% | 15% | 100% | |
| % of Total Loans Issued | | | 3% | | | 97% | 100% |
| % of Total Loans Issued | | | 3% | | | 97% | 100% |
| Average Loan Amount | \$13,955 | | | \$16,655 | | | \$16,567 |

Figure 3-1. Green Jobs–Green New York Financing, Residential Applications Received and Approved by Year (Program to Date).

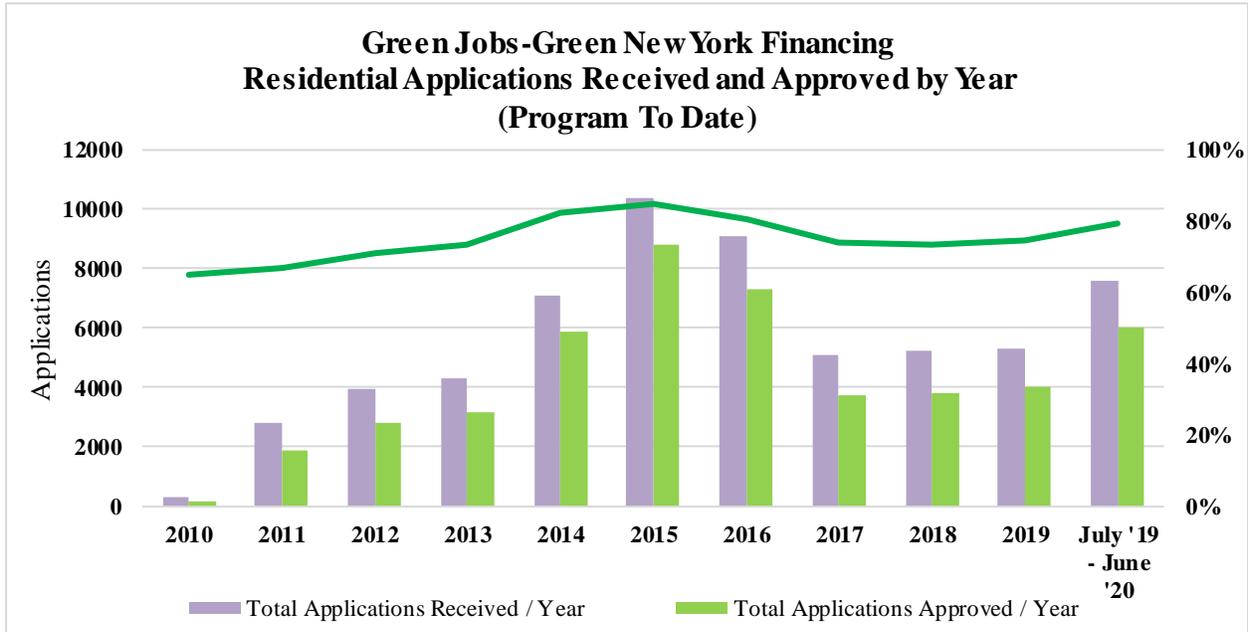


Figure 3-2. Green Jobs–Green New York Financing, Smart Energy and On-Bill Recovery Loans Issued per Year.

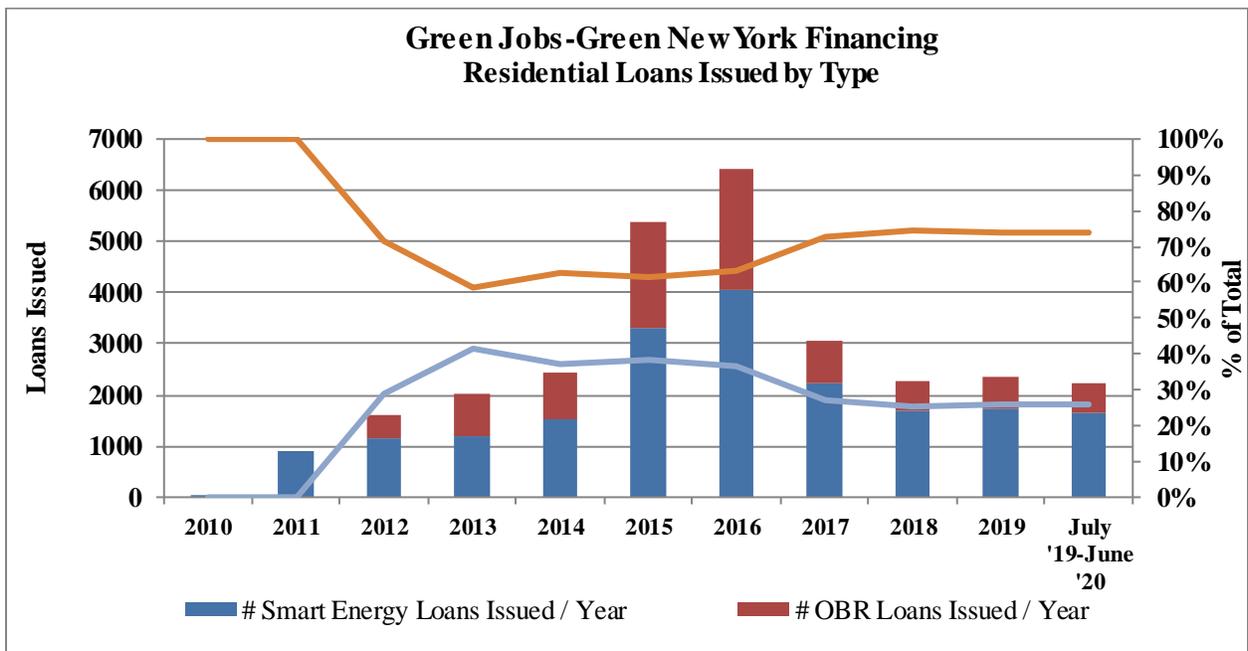
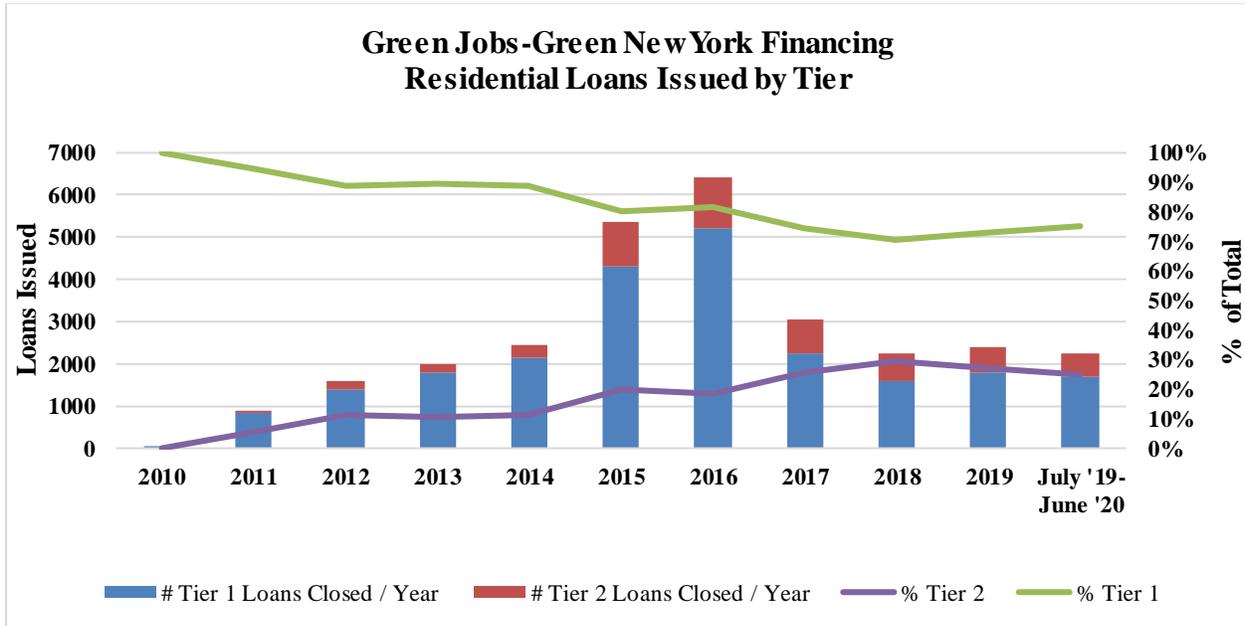


Figure 3-3. Green Jobs–Green New York Financing, Loans Issued by Tier, per Year.



4 Multifamily Energy Performance Portfolio

NYSERDA offers a portfolio of programs and incentives for owners, facility managers, developers, and condo/co-op boards of multifamily buildings with five or more units in the State. NYSERDA’s programs facilitate assessments, funding, and implementation of energy efficiency upgrades that improve building performance and save money. Implementation of the GJGNY Multifamily Buildings initiative began in the third quarter of 2010. The GJGNY audit funds were expended in 2018 and the pipeline was closed. NYSERDA continues to support audits for the multifamily sector through its offerings under the Clean Energy Fund. These programs include the continuation of the Multifamily Performance Program (MPP) and Flextech. Description of the GJGNY audit implementation approach can be found in previous GJGNY quarterly reports.

4.3 Multifamily Energy Performance Financing

Through June 30, 2020, the Multifamily Performance Program has closed 22 loans with a total value of \$12,099,798. NYSERDA’s share of that total loan value is \$3,834,685.

Table 4-1. Multifamily Energy Performance Financing

| Loan Status | Q4 2019 | | | Cumulative | | |
|-----------------------------------|---------|-----------------------------------|------------------|------------|-----------------------------------|------------------|
| | Number | NYSERDA Share of Total Loan Value | Total Loan Value | Number | NYSERDA Share of Total Loan Value | Total Loan Value |
| Participation Agreements Approved | 0 | \$0 | \$0 | 22 | \$3,834,685 | \$12,099,798 |
| Loans Closed | 0 | \$0 | \$0 | 22 | \$3,834,685 | \$12,099,798 |

5 Small Commercial Energy Efficiency Program

NYSERDA’s Small Commercial Energy Efficiency Program offers financial assistance to help small businesses and not-for-profit organizations improve their energy efficiency and reduce their energy costs.² This program offers two market rate interest loan options to finance energy efficiency projects. On-Bill Recovery Financing offers eligible small businesses and not-for-profit customers up to \$50,000 for a maximum 10 years. Borrowers use the savings on their energy bills to pay for their energy efficiency upgrades by repaying the loan through a monthly assessment on the organization’s electric utility bill. The second loan option is a Participation Loan. NYSERDA partners with lenders across New York State to help small businesses and not-for-profit organizations access below-market financing. NYSERDA provides 50% of the loan principal, up to \$50,000, for not more than 10 years. The lender provides the remaining principal of the loan at market rate. To help stimulate the economy, effective June 1, 2020 through the earlier of May 31, 2021 or until allocated funds were used, loans were offered at 0% interest, after which the rate reverts to the Wall Street Journal Prime Rate of Interest + 2.00%, fixed at closing. In addition, eligible small business and not-for-profit customers participating in NYSERDA’s NY-Sun Solar PV Incentive Program can access GJGNY financing to install solar PV systems of up to 200 kW. Financing is also available for the purchase of solar thermal systems, pellet stoves, and advanced cord wood boilers as approved under NYSERDA’s Renewable Heat NY Program.

5.1 Small Commercial Energy Efficiency Assessments

Through June 2020, the Small Commercial Energy Efficiency Program completed 4,351 assessments. The previous assessment program closed in December 2016, and in March 2019, NYSERDA began offering subsidized energy studies (assessments) for GJGNY-eligible small businesses and not-for-profit organizations.

Table 5-1. Small Commercial Energy Efficiency Assessments

| Metric | Q2 2019 | Q3 2019 | Q4 2019 | Q1 2020 | Q2 2020 | Program Cumulative | | |
|----------------------------------|---------|---------|---------|---------|---------|--------------------|-------|---------------|
| | GJGNY | GJGNY | GJGNY | GJGNY | GJGNY | GJGNY | ARRA* | Program Total |
| Received Assessment Applications | 35 | 27 | 42 | 43 | 11 | 3,732 | 934 | 4,666 |
| Completed Assessments | 6 | 35 | 32 | 37 | 25 | 3,502 | 849 | 4,351 |

² Visit <https://www.nyserdera.ny.gov/All-Programs/Programs/Small-Commercial-Energy-Assessments> for information about NYSERDA’s subsidized audits for Small Commercial/Not-For-Profits

5.2 Small Commercial Energy Efficiency Projects

Through June 2020, the Small Commercial Energy Efficiency Program estimates 1,855 project completions as a result of GJGNY funded assessments.

Table 5-2. Small Commercial Energy Efficiency Projects

| Metric | Q2 2019 | Q3 2019 | Q4 2019 | Q1 2020 | GJGNY Program Cumulative |
|--|---------|---------|---------|---------|--------------------------|
| Estimated Projects Completed* | 0 | 0 | 0 | 0 | 1855 |
| *The 2015 Small Commercial Energy Efficiency Program Impact Evaluation found that 44 percent of the energy savings recommended through program audits were reported to be implemented. Estimated projects completed are inclusive of those that used ARRA funds referenced in Table 5-1 above. | | | | | |

5.3 Small Commercial Energy Efficiency Financing

Through June 30, 2020, the Small Commercial Energy Efficiency Program has closed 80 loans with a total value of \$3,854,090. NYSERDA’s share of that total loan value is \$2,574,081.

Table 5-3. Small Commercial Energy Efficiency Financing.

| Loan Status | Q2 2020 | | | Program Cumulative | | |
|--|----------|-----------------------------------|--------------------|--------------------|-----------------------------------|--------------------|
| | Number | NYSERDA Share of Total Loan Value | Total Loan Value** | Number | NYSERDA Share of Total Loan Value | Total Loan Value** |
| Applications Approved* | | | | | | |
| Participation Loans | 0 | \$0 | \$0 | 154 | \$3,211,086 | \$6,834,846 |
| On-Bill Recovery | 0 | \$0 | \$0 | 91 | \$2,851,504 | \$3,551,619 |
| Loans Closed | | | | | | |
| Participation Loans | 0 | \$0 | \$0 | 35 | \$1,140,325 | \$2,420,334 |
| On-Bill Recovery | 0 | \$0 | \$0 | 45 | \$1,433,756 | \$1,433,756 |
| Total | 0 | \$0 | \$0 | 80 | \$2,574,081 | \$3,854,090 |
| The Small Commercial Energy Efficiency Financing Program has 16 participating lenders. | | | | | | |
| * Customer applications are assessed for both Participation Loan and On-Bill Recovery Loan eligibility prior to approval. Approved application values are inclusive of loans that have moved forward to closure. | | | | | | |
| **The total loan value represents the total value of the loan issued by the lender to the borrower. The total loan value may include financing for non-energy efficiency projects. NYSERDA's share of the total loan value represents 50% of the total energy project cost or \$50,000, whichever is less. | | | | | | |

6 Evaluation

The overarching goals of Evaluation are to provide objective and credible information that supports optimum program operation and outcomes, as well as program accountability. Three major types of evaluation are implemented for the GJGNY program. Process evaluation provides information to support program operations by addressing program efficiency and effectiveness, satisfaction and barriers to participation, among other issues. Impact evaluation provides information to help understand actual program impact and improve energy impact estimates, including economic, environmental, and non-energy benefits; in doing so it supports program accountability. Market evaluation also provides information to support program operations and accountability by characterizing and assessing target markets for programs.

6.1 GJGNY Audit-only Measure Adoption Rate Assessment

In the third quarter of 2019, NYSERDA launched the evaluation of GJGNY-funded audit-only projects for studies completed between 2016 and 2019. The objective of this evaluation is to estimate energy savings resulting from measures recommended in the energy audit and installed outside of a NYSERDA program.

This evaluation included questions regarding the adoption rate of the measures recommended in the energy audit report, early retirement, the customer interaction with the contractor that conducted the audit, and the extent to which implemented projects recommended in the audits later received installation incentives from NYSERDA or other program administrators (e.g., utilities or other program overlap). MAR values as a function of measure type, fuel type, and other factors were examined to identify trends and opportunities for programmatic improvement.

The total program long-term MAR for the combination of all measures is 0.46. The total installed source-equivalent energy savings for the entire Audit Only population is 421,819 MMBtu, which amounts to an average savings value of 26 MMBtu per household with installed measures. The calculated relative precision for this result is 12% at 90% confidence.

6.2 Building Stock Assessments

NYSERDA has undertaken major building stock studies to assess residential and commercial markets across a broad range of customer segments and energy measures. The goals of these studies have been to (1) better understand building stock and associated energy use, including saturations of energy-consuming measures, penetrations of energy-efficient equipment, building characteristics and energy management practices and (2) use this information to estimate the technical, economic, and achievable energy efficiency opportunities in New York State in the next three, five, and 10 years. These studies have been supported by SBC, EEPS, CEF and RGGI funds; RGGI funds have supplemented the budget to allow for robust data collection on fuel measures.

The Commercial Baseline Study was completed in the first quarter of 2020. Primary data collection took place between December 2018 and August 2019. The final report is available on NYSERDA's website³ and the data set is available on Open NY.⁴

A multifamily building stock baseline study will be procured in Q4 2020 and an industrial facility stock study will be underway in early 2021.

³ Visit nyserdera.ny.gov/About/Publications/Building-Stock-and-Potential-Studies/Commercial-Statewide-Baseline-Study to view the Commercial Baseline Study.

⁴ Residential Statewide Baseline Study of New York State, nyserdera.ny.gov/Residential-Statewide-Baseline-Study-of-New-York-State.aspx and the associated data on Open NY (<https://data.ny.gov/en/browse?q=RSBS>)